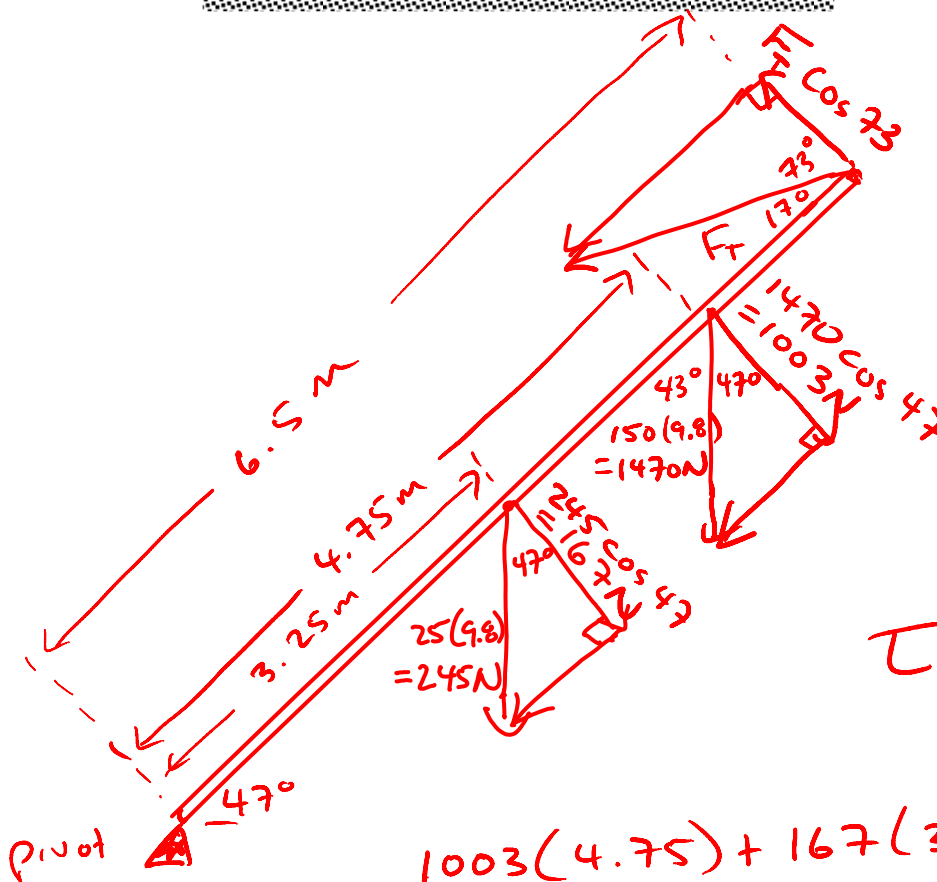
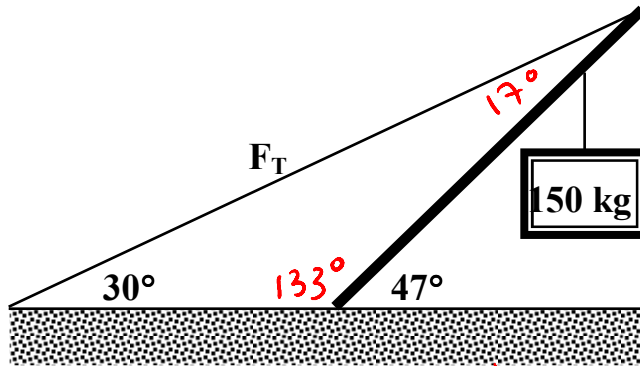


Example #15. In the diagram below, the uniform boom has a mass of 25.0 kg and a total length of 6.50 m. If the 150 kg mass hangs 4.75 m from where the boom is anchored to the ground, how much tension ' F_T ' is in the cable that supports this system?



$$\tau_{cw} = \tau_{ccw}$$

$$1003(4.75) + 167(3.25) = F_T \cos 73 (6.5)$$

$$F_T = 2.79 \times 10^3 \text{ N}$$